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Scholarly Article Comparison and the Significance to the Field of Psychology

Cassidy et al. performed a study regarding bias of appearance-based inferences on source memory. We have learned that facial characteristics contribute to source memory from previous research. This research was extended by the two experiments in this study. The study examines whether appearance-based inferences bias the ability to properly accredit source information. The goal of the study was to confirm a preexisting claim that was made from earlier research. The experiment was an important contribution to the study of appearance-based inferences and source memory in that it confirmed the researchers' hypotheses, while also using the babyface stereotype, as well as demonstrated an effect that the previous research had not found.

Kantner and Lindsay performed a study that investigates the top-down constraint on recognition memory. Previous studies have provided evidence for source-constrained search in recognition memory, but there was controversy over whether source-constrained retrieval also existed. Kantner and Lindsay investigate the presence of source-constrained retrieval. The results suggest the presence of constrained recognition, but the results were not significant enough to make this claim. Though the researchers did not assert the null hypothesis, they could not claim that they had demonstrated memory-source-based constrained retrieval.

Because the results from Kantner and Lindsay's study were not significant enough to claim that they had demonstrated their hypothesis, the study did not make the more significant contribution of the two studies. The Cassidy et al. article produced more significant results that not only confirmed preexisting knowledge, but also extended this knowledge with a newly found effect that could lead to further research of this effect,

making it the more important article.

In the Cassidy et al. article, the researchers' predictions were that "appearance-based impressions would bias source memory, particularly when a target's behavior was incongruent with facial characteristics (Cassidy, Zebrowitz & Gutchess, 2012). In addition, they also predicted that individuals who were of a different age than the source they were identifying would have a more difficult time in correctly identifying that source. Lastly, they predicted "that the context in which individuals encoded material would affect source memory, such that an impression formation, relative to a memorization, goal could either exacerbate or ameliorate the effects of congruity when sources were identified" (Cassidy et al., 2012).

In the first part of Experiment 1, younger and older adults, who serve as the control group, observed pictures of faces with neutral expressions and rated them based on babyfaceness and attractive on scales of 1 to 7. In this part of Experiment 1, the independent variable is the pictures of faces that are being presented. The faces included both male and female, and younger and older adults. A set of these pictures was then selected for use in the experimental group. The faces selected for the final data set were rated at the extreme ends of the babyfaceness scale. The independent variable, the pictures of faces, was presented to the experimental group of participants in blocks of age-gender categories, and they were asked to judge the faces relative to those of others of the same age and gender. The ratings that were given by the participants are the dependent variable, which were measured on scales of 1 to 7. The researchers compared the ratings of the first group, the control group who originally rated the faces, with those of the second, the experimental group who rated the faces from the final set of pictures selected, and found that "there were significant differences in babyfaceness, but not attractiveness, within each age-gender group" (Cassidy et al., 2012). In testing this hypothesis, the researchers are extending the literature by testing the babyface stereotype, which had not been tested in the previous studies, to see if this factor contributes to source memory.

The second part of the experiment involved participants rating sentences about behavior. The researchers selected sentences representing dominant and submissive

behavior, with an equal distribution of valence (positive/negative). The behavioral and valence sentences are the two independent variables in this part of the experiment, which have two levels each, dominant/submissive, and positive/negative. This part of Experiment 1 is a 2 x 2 factorial design. The control group from the first part of Experiment 1 served as the control group for this part as well. They rated the sentences on a scale of (1) extremely submissive to (7) extremely dominant. The dependent variable is the ratings given by participants of the behavioral sentences. The researchers selected an equal number of sentences from both extremes for the final data set. The dependent variable was measured on a scale of 1 to 7. The researchers then ran a "2 x 2 ANOVA using dominance (dominant, submissive) and valence (positive, negative) as factors to assess differences in the ratings of the final 64 sentences" (Cassidy et al., 2012). They found that the participants rated the dominant sentences as more dominant than sentences selected for the submissive set. Dominance ratings did not show any difference between positive and negative sentences, but "there was a significant interaction between dominance and valence" (Cassidy et al., 2012). Negative and positive dominant behaviors and negative and positive submissive behaviors did not differ significantly in rated dominance. In both parts 1 and 2 of Experiment 1, demand characteristics were avoided by not using the first group of adults (who first rated the faces and sentences from which the final data set was chosen) in the rest of the experiment.

The next part involved face-behavior pairs. The faces from part one were then "randomly paired with stereotype-congruent or stereotype-incongruent sentences (evenly distributed across positive/negative valence and dominance/submissiveness) (Cassidy et al., 2012). The researchers then used encoding manipulation on the experimental group. One group of these participants was given impression formation instructions. They were told they would be participating in a task about how people get to know other people. A second group of equal number was given memorization instructions and told they helping us learn how accurate people are at assessing other people. They were misinformed about the true reason for the study so as to prevent demand characteristics.

After encoding manipulation, participants viewed each face for a short time and then

they would see that same face paired with a sentence implying dominant or submissive behaviors. The face-behavior pairs that were presented are the independent variable. Proportions of the participants each saw the faces in different orders and the faces were presented in four fixed age-gender blocks of 16 trials, which disallows for confounding variables. Each face-behavior pair was presented twice. They then had to quickly enter a response, which is the dependent variable. After, "participants completed a digit comparison measure to reduce recency effects" (Cassidy et al., 2012). The digit comparison measure was performed so recency effects did not occur. The presence of recency effects could potentially be a confounding variable.

Next the participants completed a retrieval task that assessed what they remembered in regard to face-behavior associations. They were shown faces from the previous task and told, based on their memories, to choose which person was either more dominant or more submissive. The faces are still an independent variable while the participants' responses (whether the person was either more dominant or more submissive) is the dependent variable. Two faces were shown at a time, one being a target, the other a lure. Both faces matched in age and gender. "Half of the lure faces also matched the target in facial characteristics, and half had facial characteristics mismatching the target" (Cassidy et al., 2012). Target and behavioral question always matched in behavior while lure faces and behavioral questions had always been mismatched in behavior during encoding.

Analyzing the data using a 2 x 2 x 2 x 2 mixed ANOVA, the researchers found that there was greater accuracy for the impression formation instructions participants than the memorization instructions participants. Another prediction that proved true was that "young participants accurately identified more younger than older target faces" (Cassidy et al., 2012). Older adults identified more congruent than incongruent sources for older targets when lure facial characteristics mismatched the targets. For face-behavior congruence and lure facial characteristics, there were no main effects. There was an interaction between face-behavior congruence and lure facial characteristics, however. Accuracy was better when targets' behaviors matched their facial characteristics. The researchers also found a three-way interaction between face-behavior congruence, lure facial characteristics, and age of face. As

the researchers predicted, appearance-based inferences did bias source memory, meaning that the effect of appearance-based inferences was stronger than previous exposure to targets with lure behavior. But this bias was not present when target faces of either congruent or incongruent behavior were presented with lures that had equivalent facial characteristics as the target.

The second experiment investigated the research question of why participants misidentified more incongruent face-behavior pairs when the lure facial characteristics mismatched for older sources, but not younger sources. In an attempt to find an answer, the researchers decreased the encoding time and increased the retention time. The encoding times and retention times are independent variables. Participants (who had not participated in the Experiment 1) were all given the same impression formation instructions from Experiment 1. The use of participants who did not participate in Experiment 1 most likely ensures against confounding variables. The time that participants received to view each face remained the same, but the amount of time they received to view the face with the behavioral sentence was reduced. The retention time was increased from Experiment 1.

The results were analyzed using a 2 x 2 x 2 ANOVA, and the researchers found that retrieval accuracy actually declined by almost 7% from the first experiment. This was above chance, meaning that the participants statistically worsened in retrieval accuracy under the conditions in the second experiment in comparison to that of the first. As in Experiment 1, participants still correctly identified more younger target faces than older in this experiment. However, unlike in Experiment 1, participants also accurately identified fewer targets whose behaviors were incongruent versus congruent with their facial characteristics" (Cassidy et al., 2012). Consistent with Experiment 1, an interaction between face-behavior congruence and lure facial characteristics occurred once again. The findings regarding congruency and lure facial characteristics were the same as the first experiment. "There was no three-way interaction between face-behavior congruence, lure facial characteristics, and age of face" (Cassidy et al., 2012). The results from both experiments show that the presence of lure faces weakened the tendency for face-behavior incongruence to reduce source memory. In Experiment 2, "however, this tendency was equally strong for both younger and older

targets" (Cassidy et al., 2012). The conclusion drawn from the results suggest that younger faces are not really more resistant to congruity effects than older faces when younger viewers are viewing them.

Important general findings suggest, "the basis of congruity effects demonstrated in these experiments began at encoding, rather than purely at retrieval" (Cassidy et al., 2012). Also, "the lure provided a tempting schema-consistent source decision cue. This is consistent with work showing that people tend to use schema-consistent information when they make source-monitoring decisions" (Cassidy et al., 2012). One of the most important conclusions from this study is that it "provides the first evidence that appearance-based reactions to babyfaced and mature-faced individuals influence source memory" despite learned behavioral information (Cassidy et al., 2012).

This research study investigating the bias of appearance-based inferences on source memory is a very important article, not only because it confirms what other studies have already claimed, but also furthered the literature and tested the effect in a new paradigm by using the babyface stereotype. By providing evidence that the effects occurred at encoding rather than retrieval, the study also demonstrated the existence of an effect that had not been previously recognized. This discovery paves the way for further research into this effect for confirmation and other discoveries potentially. By confirming an already supported hypothesis and extending the literature, this study does not only confirm preexisting knowledge, but also provides a basis for further research, rendering it the more important article.

References

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